

periments; and seeing the Rays which differ in Refrangibility may be parted and sorted from one another, and that either by Refraction as in the third Experiment, or by Reflexion as in the tenth, and then the several sorts apart at equal Incidences suffer unequal Refractions, and those sorts are more refracted than others after separation, which were more refracted before it, as in the sixth and following Experiments, and if the Sun's Light be trajected through three or more cross Prisms successively, those Rays which in the first Prism are refracted more than others are in all the following Prisms, refracted more than others in the same rate and proportion, as appears by the fifth Experiment; it's manifest that the Sun's Light is an Heterogeneous mixture of Rays, some of which are constantly more Refrangible than others, as was to be proposed.

*P R O P. III. Theor. III.*

*The Sun's Light consists of Rays differing in Reflexibility, and those Rays are more Reflexible than others which are more Refrangible.*

**T**HIS is manifest by the ninth and tenth Experiments: For in the ninth Experiment, by turning the Prism about its Axis, until the Rays within it which in going out into the Air were refracted by its Base, became so oblique to that Base, as to begin to be totally reflected thereby; those Rays became first of all totally reflected, which before at equal Incidences with the rest had suffered the greatest Refraction. And the same thing happens in the Reflexion made by the common Base of the two Prisms in the tenth Experiment.

*P R O P.*

*P R O P. IV. Prob. I.*

*To separate from one another the Heterogeneous Rays of Compound Light.*

**T**HE Heterogeneous Rays are in some measure separated from one another by the Refraction of the Prism in the third Experiment, and in the fifth Experiment by taking away the Penumbra from the Rectilinear sides of the Coloured Image, that separation in those very Rectilinear sides or straight edges of the Image becomes perfect. But in all places between those rectilinear edges, those innumerable Circles there described, which are severally illuminated by Homogeneous Rays, by interfering with one another, and being every where commixt, do render the Light sufficiently Compound. But if these Circles, whilst their Centers keep their distances and positions, could be made less in Diameter, their interfering one with another and by consequence the mixture of the Heterogeneous Rays would be proportionally diminished. In the 23<sup>th</sup> Fig. 23. Figure let A G, B H, C J, D K, E L, F M be the Circles which so many sorts of Rays flowing from the same Disque of the Sun, do in the third Experiment illuminate; of all which and innumerable other intermediate ones lying in a continual Series between the two Rectilinear and Parallel edges of the Sun's oblong Image P T, that Image is composed as was explained in the fifth Experiment. And let *ag, bh, ci, dk, el, fm* be so many less Circles lying in a like continual Series between two Parallel right Lines *af* and *gm* with the same distances between their Centers, and illuminated by the same sorts of Rays, that is the Circle *ag* with the same sort by which the corresponding Circle